

# INTERNATIONAL SEARCH REPORT

PCT/GB2005/000308

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G01N1/28 G01N27/447 C12Q1/68

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G01N C12Q B01L C12N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2002/045246 A1 (MCMILLAN WILLIAM A ET AL) 18 April 2002 (2002-04-18)  abstract; figure 2 paragraph '0098! - paragraph '0099! paragraph '0068! - paragraph '0205! -----	1-6, 8-17, 19-32
X	US 6 544 734 B1 (BRISCOE CYNTHIA G ET AL) 8 April 2003 (2003-04-08)  column 1, line 39 - column 2, line 47 column 3, line 3 - column 6, line 8 abstract; figures 1,3 ----- -/--	1-8, 17-19, 22-30

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

### \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

Date of the actual completion of the international search

24 May 2005

Date of mailing of the international search report

08/06/2005

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2003/138941 A1 (GONG HAIQING ET AL) 24 July 2003 (2003-07-24)  paragraph '0082! - paragraph '0087!; figures 1,11a,11b	1-8, 12-17, 22-30
Y	paragraph '0095! - paragraph '0102! paragraph '0120! - paragraph '0121! paragraph '0149! - paragraph '0153! paragraph '0158! - paragraph '0198!	19,20
Y	DE 197 00 364 A1 (BAYER AG, 51373 LEVERKUSEN, DE) 9 July 1998 (1998-07-09) page 2, line 25 - page 2, line 57	19,20
X	JOON-HO KIM ET AL: "A disposable DNA sample preparation microfluidic chip for nucleic acid probe assay" PROCEEDINGS OF THE IEEE 15TH. ANNUAL INTERNATIONAL CONFERENCE ON MICROELECTRO MECHANICAL SYSTEMS. MEMS 2002. LAS VEGAS, NV, JAN. 20 - 24, 2002, IEEE INTERNATIONAL MICRO ELECTRO MECHANICAL SYSTEMS CONFERENCE, NEW YORK, NY : IEEE, US, vol. CONF. 15, 2002, pages 133-136, XP010577613 ISBN: 0-7803-7185-2 the whole document	9-12, 26-32
X	WO 00/62931 A (CLINICAL MICRO SENSORS, INC; KAYYEM, JON, FAIZ) 26 October 2000 (2000-10-26) page 7, line 10 - page 16, line 22; figures page 38, line 28 - page 40, line 10	1-8, 12-17, 22-31
P, X	WO 2004/096443 A (NOVEMBER AKTIENGESELLSCHAFT GESELLSCHAFT FUER MOLEKULARE MEDIZIN; BART) 11 November 2004 (2004-11-11) the whole document	1-32
A	US 5 229 297 A (SCHNIPELSKY ET AL) 20 July 1993 (1993-07-20) the whole document	1-32
A	EP 0 987 327 A (QIAGEN GMBH) 22 March 2000 (2000-03-22) abstract; claims 17,19,20	7,24,25
A	PRINZ ET AL.: "Bacterial Chromosome extraction and isolation" LAB CHIP, vol. 2, 2002, pages 207-212, XP009047795 the whole document	1-32
	-/--	

# INTERNATIONAL SEARCH REPORT

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>SCHILLING E A ET AL: "CELL LYSIS AND PROTEIN EXTRACTION IN A MICROFLUIDIC DEVICE WITH DETECTION BY A FLUOROGENIC ENZYME ASSAY"</p> <p>ANALYTICAL CHEMISTRY, AMERICAN CHEMICAL SOCIETY. COLUMBUS, US, vol. 74, no. 8, 15 April 2002 (2002-04-15), pages 1798-1804, XP001115858 ISSN: 0003-2700 the whole document</p> <p>-----</p>	1-32
A	<p>WATERS L C ET AL: "MICROCHIP DEVICE FOR CELL LYSIS, MULTIPLEX PCR AMPLIFICATION, AND ELECTROPHORETIC SIZING"</p> <p>ANALYTICAL CHEMISTRY, AMERICAN CHEMICAL SOCIETY. COLUMBUS, US, vol. 70, no. 1, January 1998 (1998-01), pages 158-162, XP000733220 ISSN: 0003-2700 the whole document</p> <p>-----</p>	1-32
A	<p>ZHANG N ET AL: "AUTOMATED AND INTEGRATED SYSTEM FOR HIGH-THROUGHPUT DNA GENOTYPING DIRECTLY FROM BLOOD"</p> <p>ANALYTICAL CHEMISTRY, AMERICAN CHEMICAL SOCIETY. COLUMBUS, US, vol. 71, no. 6, 15 March 1999 (1999-03-15), pages 1138-1145, XP000831550 ISSN: 0003-2700 the whole document</p> <p>-----</p>	1-32

# INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 2002045246	A1	18-04-2002	US 6440725 B1	27-08-2002
			US 2002042125 A1	11-04-2002
			US 2002039783 A1	04-04-2002
			US 2002055167 A1	09-05-2002
			US 2002187547 A1	12-12-2002
			US 2001012612 A1	09-08-2001
			US 2002019060 A1	14-02-2002
US 6544734	B1	08-04-2003	US 6572830 B1	03-06-2003
			US 6592696 B1	15-07-2003
			AU 2082701 A	18-06-2001
			CA 2393690 A1	14-06-2001
			EP 1237655 A2	11-09-2002
			JP 2003517591 T	27-05-2003
			WO 0141931 A2	14-06-2001
			US 2003129646 A1	10-07-2003
			US 2003190608 A1	09-10-2003
			AT 236719 T	15-04-2003
			AU 6418499 A	01-05-2000
			CA 2346059 A1	20-04-2000
			DE 69906772 D1	15-05-2003
			DE 69906772 T2	11-03-2004
			EP 1314472 A1	28-05-2003
			EP 1123157 A1	16-08-2001
			ES 2197681 T3	01-01-2004
			JP 2002527254 T	27-08-2002
			WO 0021659 A1	20-04-2000
			US 2003118481 A1	26-06-2003
			US 6527890 B1	04-03-2003
US 2003138941	A1	24-07-2003	EP 1440168 A2	28-07-2004
			JP 2005506541 T	03-03-2005
			WO 03035229 A2	01-05-2003
			EP 1461454 A2	29-09-2004
			WO 03035909 A2	01-05-2003
			US 2003138819 A1	24-07-2003
DE 19700364	A1	09-07-1998	AU 5985798 A	03-08-1998
			WO 9830571 A1	16-07-1998
			EP 0958300 A1	24-11-1999
			JP 2001509258 T	10-07-2001
WO 0062931	A	26-10-2000	AT 256500 T	15-01-2004
			AU 771571 B2	25-03-2004
			AU 4368000 A	02-11-2000
			CA 2370879 A1	26-10-2000
			DE 60007306 D1	29-01-2004
			DE 60007306 T2	16-09-2004
			DK 1183102 T3	19-04-2004
			EP 1183102 A1	06-03-2002
			EP 1391241 A1	25-02-2004
			ES 2213009 T3	16-08-2004
			JP 2002542461 T	10-12-2002
			PT 1183102 T	31-05-2004
			WO 0062931 A1	26-10-2000
WO 2004096443	A	11-11-2004	DE 10319045 A1	09-12-2004
			WO 2004096443 A1	11-11-2004

# INTERNATIONAL SEARCH REPORT

Information on patent family members

PCT/GB2005/000308

Patent document cited in search report		Publication - date	Patent family member(s)	Publication date
US 5229297	A	20-07-1993	CA 1338505 C	06-08-1996
			DE 69009510 D1	14-07-1994
			DE 69009510 T2	05-01-1995
			DK 381501 T3	04-07-1994
			EP 0381501 A2	08-08-1990
			FI 94360 B	15-05-1995
			IE 63501 B1	03-05-1995
			JP 2536945 B2	25-09-1996
			JP 3007571 A	14-01-1991
			KR 161276 B1	16-11-1998
			KR 161352 B1	01-10-1999
			US 6645758 B1	11-11-2003
			AT 130373 T	15-12-1995
			AU 1664092 A	21-10-1992
			CA 2083173 A1	22-09-1992
			DE 69206080 D1	21-12-1995
			DE 69206080 T2	13-06-1996
			EP 0530357 A1	10-03-1993
			ES 2081613 T3	01-03-1996
			FI 925285 A	20-11-1992
			JP 8030704 B	27-03-1996
			JP 5507362 T	21-10-1993
			WO 9216659 A1	01-10-1992
<hr/>				
EP 0987327	A	22-03-2000	EP 0987327 A1	22-03-2000
			AT 235548 T	15-04-2003
			DE 69906210 D1	30-04-2003
			DE 69906210 T2	12-02-2004
			EP 0992583 A1	12-04-2000
			JP 3304932 B2	22-07-2002
			JP 2000093171 A	04-04-2000
			US 6242220 B1	05-06-2001
<hr/>				

VIII-4-1	<p>Declaration: Inventorship (only for the purposes of the designation of the United States of America) Declaration of Inventorship (Rules 4.17(iv) and 51bis.1(a)(iv)) for the purposes of the designation of the United States of America:</p>	<p>I hereby declare that I believe I am the original, first and sole (if only one inventor is listed below) or joint (if more than one inventor is listed below) inventor of the subject matter which is claimed and for which a patent is sought.</p> <p>This declaration is directed to the international application of which it forms a part (if filing declaration with application).</p> <p>I hereby declare that my residence, mailing address, and citizenship are as stated next to my name.</p> <p>I hereby state that I have reviewed and understand the contents of the above-identified international application, including the claims of said application. I have identified in the request of said application, in compliance with PCT Rule 4.10, any claim to foreign priority, and I have identified below, under the heading "Prior Applications", by application number, country or Member of the World Trade Organization, day, month, and year of filing, any application for a patent or inventor's certificate filed in a country other than the United States of America, including any PCT international application designating at least one country other than the United States of America, having a filing date before that of the application on which foreign priority is claimed.</p>
VIII-4-1-1	Prior applications:	0401868.5, GB, 28 January 2004 (28.01.2004)

		<p>I hereby acknowledge the duty to disclose information that is known by me to be material to patentability as defined by 37 C.F.R. § 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the PCT international filing date of the continuation-in-part application.</p> <p>I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.</p>
VIII-4-1-1-1	Name (LAST, First)	SCHONFELD, Friedhelm
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VIII-4-1-1-4	Citizenship:	DE
VIII-4-1-1-5	Inventor's Signature: (if not contained in the request, or if declaration is corrected or added under Rule 26ter after the filing of the international application. The signature must be that of the inventor, not that of the agent)	
VIII-4-1-1-6	Date: (of signature which is not contained in the request, or of the declaration that is corrected or added under Rule 26ter after the filing of the International application)	

VIII-4-1-2-1	Name (LAST, First)	VON GERMAR, Frithjof
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VIII-4-1-2-4	Citizenship:	DE
VIII-4-1-2-5	Inventor's Signature: (If not contained in the request, or if declaration is corrected or added under Rule 26ter after the filing of the international application. The signature must be that of the inventor, not that of the agent)	
VIII-4-1-2-6	Date (of signature which is not contained in the request, or of the declaration that is corrected or added under Rule 26ter after the filing of the international application)	
VIII-4-1-3-1	Name (LAST, First)	KARLSEN, Frank
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VIII-4-1-3-4	Citizenship:	NO
VIII-4-1-3-5	Inventor's Signature: (if not contained in the request, or if declaration is corrected or added under Rule 26ter after the filing of the international application. The signature must be that of the inventor, not that of the agent)	
VIII-4-1-3-6	Date (of signature which is not contained in the request, or of the declaration that is corrected or added under Rule 26ter after the filing of the international application)	



VIII-4-1-4-1	Name (LAST, First)	LICHTENBERG, Jan
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VIII-4-1-4-4	Citizenship:	CH
VIII-4-1-4-5	Inventor's Signature: (If not contained in the request, or if declaration is corrected or added under Rule 26ter after the filing of the international application. The signature must be that of the inventor, not that of the agent)	
VIII-4-1-4-6	Date (of signature which is not contained in the request, or of the declaration that is corrected or added under Rule 26ter after the filing of the international application)	
VIII-4-1-5-1	Name (LAST, First)	VERPOORTE, Sabeth
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VIII-4-1-5-4	Citizenship:	CH
VIII-4-1-5-5	Inventor's Signature: (If not contained in the request, or if declaration is corrected or added under Rule 26ter after the filing of the international application. The signature must be that of the inventor, not that of the agent)	
VIII-4-1-5-6	Date (of signature which is not contained in the request, or of the declaration that is corrected or added under Rule 26ter after the filing of the international application)	

VIII-4-1-6-1	Name (LAST, First)	SETNA, Rohan, Piloo
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VIII-4-1-6-4	Citizenship:	GB
VIII-4-1-6-5	Inventor's Signature: (if not contained in the request, or if declaration is corrected or added under Rule 26ter after the filing of the international application. The signature must be that of the inventor, not that of the agent)	
VIII-4-1-6-6	Date (of signature which is not contained in the request, or of the declaration that is corrected or added under Rule 26ter after the filing of the international application)	